

AMATEUR RADIO

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Garriott Demonstrates Ham Radio Viability as Backup Comm System



While passing over Australia approximately 6 days, 19 hours into the STS-9 mission, Dr. Owen Garriott was able to establish a radio link with an Australian ham radio operator who then patched his radio into the telephone system and contacted Mission Control in Houston. Garriott talked at length with CAPCOM via the ham radio link. U.S. Senator Jake Garn (R-Utah) and Astronaut Joe Kerwin were on site and talked briefly with Garriott and the other crew members. This is a partial transcript of that historic radio communication.

SPACECRAFT: Hello Houston CAPCOM, hello Houston CAPCOM. This is W5LFL [Garriott's Amateur Radio call sign] in the spacecraft Columbia.

GROUND: W5LFL, W5LFL this is Houston. We hear you loud and clear, Owen. You have a super backup comm system. How do you copy us?

SPACECRAFT: Loud and clear. You are one of the best stations we've heard ever since we've been in orbit. The attitude [position] of the spacecraft is just perfect, of course. Looking right straight down over Melbourne at just about this moment. We just wanted to establish the fact that we could maintain a backup comm here. John

Continued on page 2

Earth-bound Amateur Radio Operators Talk with Astronaut in Space

Space Shuttle *Columbia*'s open radio transmission to the Western United States drew an eager babble of response, and a Montana man was the first to chat with an astronaut in a talk he called "a milestone for me and ham radio."

Lance Collister, 32, of Frenchtown, Montana, said he contacted astronaut Owen Garriott for a 2½ minute chat.

"It was pretty thrilling," said Collister, a prize-winning ham operator who has bounced radio signals off the moon from his antenna-studded home.

Collister, who builds log homes for a living, was responding to an open radio call from Garriott, a mission specialist aboard the Spacelab 1 flight, as the Shuttle passed near the West Coast.

"W5LFL calling CQ North America; W5LFL from *Columbia* calling CQ and standing by," said Garriott as the ship's orbit grazed the West Coast, traveling in an arc from San Francisco to the tip of the Baja peninsula. [In ham talk, "CQ" means "calling any station."]

"Unfortunately our spacecraft attitude is not the best [for ham radio operation] and I'm radiating only four watts out of the small cavity antenna in our overhead window, so it does not give me a very good signal margin," he said.

A few minutes before the Shuttle was to appear, Collister said he started beaming his Amateur Radio call letters to the Shuttle. Three minutes later, Collister said he heard Garriott respond. Garriott said that Collister was "our first contact from orbit."

"It wasn't much of a conversation," Collister said, but added, "I didn't realize that he had not made any contacts" until Garriott told him so.

All in all, Garriott spent approximately four hours of his free time on the ham radio, and contacted over 300 stations in at least 20 countries.



Lance Collister, of Frenchtown, Montana, smiles as he recalls his contact with Owen Garriott, Space Shuttle astronaut. Collister was the first amateur to contact the astronaut/ham. (photo courtesy Lance Collister)

Backup Comm Continued from page 1

[Young] is right behind me and he's been looking forward to saying hello to you there or having us say hello to you through the backup ham system. He's giving us a "thumbs up" signal right now. So, Fine Business [ham jargon for "That's great!"]. We appreciate the chance to talk to you. Go ahead. Over.

GROUND: This is Bill Fisher. Your comm system right now through the ham set is certainly equal to any of the uhf sites we've been talking over. You're coming through very loud and clear. We're standing by for John.

SPACECRAFT: John is not going to get on the loop here. I'd have to change the headset with him. Let me go back to Australia and we'll take a few moments here before we lose contact — line of sight — with Joe Kerwin. Thanks a lot fellows in Houston and back to you Joe in Australia. Over.

GROUND: Okay. Thanks very much Owen. I've got Ambassador Robert Nesen here. Incidentally, standing behind him is Senator Jake Garn from Utah who says hello to John and that he still wants a ride.

SPACECRAFT: Okay, fine Joe. Thank you. I just passed along the hello from the Senator to John who acknowledges that. We are pleased to have there, also, the Ambassador. So we're glad to see you all. The spacecraft attitude really makes the comm system fine here this

morning. We've had a lot of good views of Australia. We want to wish you all many thanks and 73 [ham radio jargon for "best regards" usually used at the end of a transmission or to signal an intention to end the transmission to the other station]. Thanks for all the good work you've done for us here tackling the mission. Go ahead.

GROUND: Owen, this is the Ambassador, and we welcome you over Australia. Glad to have you here and I'm glad you got the message to John Young from the Senator. He says he's ready to go. Over.

SPACECRAFT: VK1ORR this is W5LFL spacecraft *Columbia*. This is one of the best opportunities for communication we've had. The spacecraft is looking right straight down on Melbourne. We passed right overhead, and we really had a fine time having a chance to have a brief conversation with you all. We'll have to get on to some other work here this morning. We have a press conference coming up on the U.S. in about an hour and half. We'll be looking forward to seeing you back home in the United States in another few days, Joe. W5LFL/spacecraft *Columbia* saying 73 to the whole group there. Over.

GROUND: Roger, thanks Owen.

Space Shuttle Astronaut Holds Royal Ham Conversation

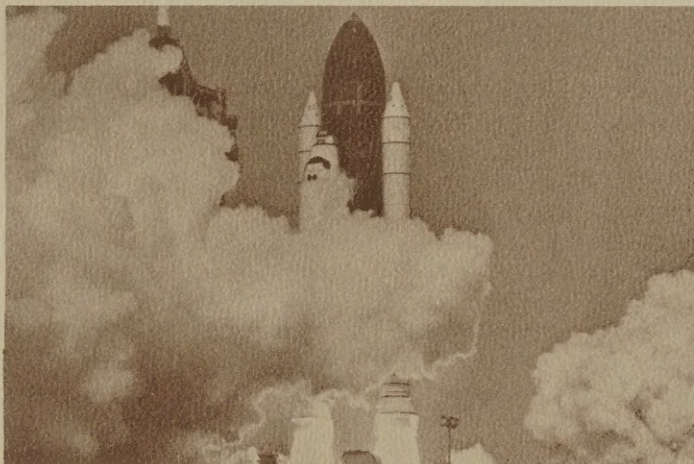
Astronaut and ham radio operator Owen Garriott used some of his spare time to operate his ham radio set while orbiting above the Earth. On mission day six, he was able to have a nice, typically "ham" radio chat with King Hussein of Jordan, who is a radio amateur possessing the call letters JY1. After Garriott exchanged signal reports and described the "view from above," he and Hussein held a four minute conversation.

Hussein made this concluding statement at the end of

the historic ham radio conversation: "Thank you very, very much indeed for this very exciting report about Jordan and what you can see from up there. We're very, very proud, very happy indeed to send you and your colleagues from all my countrymen and myself all our very, very best for a most successful mission, and best wishes for a safe trip. And we're very, very proud of you, and we share this pride with all the people of America, all the people of the world."



Kennedy Space Center, Florida, November 28, 1983: Mission specialist Owen Garriott and payload specialist Byron Lichtenberg prepare to enter the astronaut van for the ride to Pad 39A and the launch of STS-9. Dr. Garriott, W5LFL, is waving in response to greetings of "73, Owen!" from news photographer and ham radio operator Patty Winter. (photo by Patty Winter)



Columbia clears the launch pad at 11:00 am EST November 28 carrying astronaut/ham Owen Garriott and the rest of her crew into orbit. STS-9 had the largest crew and most complex assignment of any Shuttle mission to date. (NASA photo)



The Johnson Space Center Amateur Radio Club's satellite station, located in the visitor's auditorium along with most of the press tables, plays host to hams and media alike during one of the early orbits. Louis McFadin is at the microphone. NBC Science Correspondent (and ham radio operator) Roy Neal, far left, observes anxiously. (NASA photo)



Touchdown! Columbia brings home her precious cargo. Among the many records set by STS-9 is the first ham operation from space — the one hams will remember forever. (NASA photo)

WANT TO KNOW MORE ABOUT THE AMATEUR RADIO SERVICE? Contact Perry Williams, ARRL's Washington Area Coordinator, and arrange for a personal visit by calling (202) 296-9107.



ALONG LEAGUE LINES

More than a decade ago, *CQ Magazine* published a cover photo of Dr. Owen Garriott a newly selected Apollo astronaut trainee, with a question asking if he would be the first ham to operate from the surface of the moon. When Congress slashed NASA's budget, cutting short the Apollo program, Garriott and the dream of ham operation from space moved over to the Skylab program. Although Garriott made it to Skylab, ham radio did not. Now our dreams have become a reality — and a highly successful one, at that. On November 28, 1983, the Space Shuttle Columbia carried Garriott and his radio into orbit. For 10 days Columbia streaked through the skies, and for the last seven of those days, hams around the world were sent emotionally into orbit when they heard Garriott's voice calling earth-bound stations. For those few lucky enough to hear their own call signs acknowledged, the thrill was doubly sweet.

Amateur Radio has long played a role, albeit not a highly visible one, in the space program and other technical endeavors this nation has engaged in. A large por-

tion of the engineers, technicians and business leaders in the technical fields got their earliest start in Amateur Radio. Only one out of every 550 Americans is a licensed ham radio operator, but a much greater proportion of the technical elite are.

Garriott proved that one of the roles Amateur Radio can play in the space program today is the same as one that it has played since the first ham tapped out his call sign on a spark-gap transmitter over 70 years ago — back up communications in a time of emergency. Over Australia, Garriott made contact with hams on the ground, who patched his signals into the commercial telephone lines and called Mission Control in Houston. If every other communications system on board the Columbia had failed, Garriott could have stayed in contact with Mission Control through his ham radio.

As NASA and the space program move on to permanent space stations and the exploration of the planets, Amateur Radio will continue playing the roles it has traditionally played. Amateur Radio inspires, encourages and challenges today's teenagers who will be the space program 25 years from now. Amateur Radio is the perfect back-up communications system for a communications emergency — on land, on sea, in the air or **in space!**

Ten days, seven hours, 47 minutes and 23 seconds after launch, Columbia touched down, completing what could be the most thrilling chapter in the annals of ham radio. But it is not the end; just the beginning. Amateur Radio has moved into its newest frontier, and it is there to stay!



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